

## **REMARKS**

In the Office Action mailed August 27, 2003, the claims were rejected under 35 U.S.C. § 112, second paragraph. In addition, the claims were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,184,545 to *Werner et al*, in view of U.S. Patent No. 4,110,775 to *Festa*.

The amendment to claim 1 clarifies that the "critical electric field" is the "critical electric field of said semiconductor material layer." The amendment was made solely to clarify the claim, and not for the purpose of overcoming any prior art references. Support for the amendment can be found in the specification page 5, line 26 to page 6, line 1.

The amendment also adds new claims 10–21. Support for the new claims can be found throughout the specification and claims and no new matter is added by the amendment. With entry of the amendment, claims 1–4 and 6–21 are pending in the application. Reconsideration and withdrawal of the rejections is respectfully requested in view of the amendment and the following remarks.

### **A. The Rejection of The Claims under § 112, Second Paragraph**

Claims 1–4 and 6–9 were rejected under 35 U.S.C. § 112, second paragraph, for not associating the critical electric field with a particular region. This rejection is made moot by the amendment.

Claim 1, as amended, recites "a critical electric field of said semiconductor material layer," which clarifies that the critical electric field is associated with the semiconductor material layer. Accordingly, withdrawal of the rejection of claims 1–4 and 6–9 under 35 U.S.C. § 112, second paragraph, is respectfully requested.

### **B. The Rejection of The Claims under § 103(a)**

Claims 1–4 and 6–9 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,184,545 to *Werner et al*, in view of U.S. Patent No. 4,110,775 to *Festa*. This rejection is respectfully traversed because one of skill in the art

would have no motivation to combine *Werner* with *Festa* to make the claimed invention.

Claim 1 includes a Schottky barrier that has "at least two doped regions of a second conductive type" where "each one of said doped regions" are "separated from a substrate region by portions of a semiconductor layer." See claim 1, lines 5–8. Thus, a reference that shows any doped regions of a second conductive type in contact with a substrate region would teach away from this element of claim 1.

*Werner* is exactly this type of reference, where doped region (8) is shown to be in direct contact with underlying substrate (5). Thus, *Werner* not only fails to suggest the present invention, it actually teaches away from it by showing a doped region of a second conductive type in direct contact with a substrate region.

*Festa* fails to provide one of skill in the art with any motivation to modify the Schottky diode in *Werner* to make the present invention. While *Festa* describes guard bands made from p-type regions (26) that do not reach down to the underlying silicon substrate (20), "guard rings" are already described in *Werner* as the p<sup>+</sup> regions (10). See *Werner*, col. 5, lines 6–14. The mere presence of p-type regions (26) in *Festa* does not provide one with motivation to separate p-regions (8) in *Werner* from the underlying substrate (5). At best, *Festa* merely reiterates the idea already stated in *Werner* that the p<sup>+</sup> regions (10) can act as guard rings.

For at least this reason, neither *Werner* nor *Festa*, alone or in combination, describe or suggest every element of claim 1. Claims 2–4 and 6–9, which depend from claim 1, also include all the elements of claim 1. Accordingly, withdrawal of the rejection of claims 1–4 and 6–9 under 35 U.S.C. § 103(a) over *Werner* in view of *Festa* is respectfully requested.

### C. Conclusion


In view of all of the above, claims 1–4 and 6–21 are believed to be allowable and the case in condition for allowance, which action is respectfully requested. Should the Examiner be of the opinion that a telephone

Appl. No. 10/053,865  
Amdt. dated November 26, 2003  
Reply to Office action of August 27, 2003

conference would expedite the prosecution of this case, the Examiner is requested to contact the attorney at the telephone number listed below.

No fees are believed to be required with this Response, and should any be required, please charge Deposit Account 50-1123. Should any extension of time be required, please consider this a petition therefore and charge the required fee to Deposit Account 50-1123.

November 26, 2003

  
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